

**Amendments to the Specification:**

Replace the paragraph beginning on page 3, line 21 with the following rewritten paragraph:

Figure 4A is an illustration showing, the conditional probability that a given pixel is an iris pixel stated as a function of a specific red intensity and the conditional probability that a given pixel is a non-iris pixel as a function of a specific red intensity.

Replace the paragraph beginning on page 3, line 25 with the following rewritten paragraph:

Figure 4B is a flowchart presenting the process of developing a statistical model representing the conditional probability that a given pixel is an iris pixel as a function of a specific red intensity level and the a statistical model representing the conditional probability that a given pixel is an iris pixel as a function of a specific red intensity level.

Replace the paragraph beginning on page 7, line 22 with the following rewritten paragraph:

Instead, the present invention classifies a pixel as an iris or a non-iris pixel on the basis of a probability analysis. This probability analysis applies an iris statistical model and a non-iris statistical model. The iris statistical model defines the probability that a given pixel is an iris pixel based upon the red intensity level of the pixel. Similarly, the non-iris statistical model defines the probability that a given pixel is not an iris pixel based upon the red intensity level of the pixel. The relationship between these models is non-linear as is shown by way of example in Fig. 4A which is an illustration of the conditional probability 402 that a given pixel is an iris pixel stated as a function of a specific red intensity and the conditional probability 404 that a given pixel is a non-iris pixel as a function of a specific red intensity I.

Replace the paragraph beginning on page 9, line 4 with the following rewritten paragraph:

Fig. 4B shows a flow chart illustrating the processes used in the Iris Color/Bayes Model Training step 27 of Fig. 2 for developing the statistical

models used to classify the pixels. This step will be performed before the method for detecting irises is used to detect iris pixels. As is shown, a large sample of frontal face images are collected and examined. All iris pixels and non-iris pixels in the face region of each image are then manually identified **40, 42**. Next, the conditional probability that a given iris pixel has a specific red intensity  $I$ ,  $P(I | iris)$  is computed and the probability of the occurrence of an iris in the face oval region,  $P(iris)$  **44** is computed; then the conditional probability that a given noniris pixel has a specific red intensity  $I$ ,  $P(I | noniris)$  is computed and finally the probability of the occurrence of a non-iris pixel in the face oval region,  $P(noniris)$  **46** is computed. The computed statistical models of iris and non-iris are used in the Bayes formula to produce the conditional probability that a given pixel intensity belongs to an iris,  $P(iris | I)$  **48**. In application, the Bayes model can be used to generate a look-up table to be used in Iris Color Pixel Detection step **28**.